

	Scope of Work	Grootvlei
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1. INTRODUCTION

Grootvlei Power Station is equipped with a Fire Detection System (FDS) designed to provide early detection of fire conditions in critical plant areas in order to protect personnel, plant equipment and ensure continued station availability. The system consists primarily of Honeywell XLS1000, XLS120 and XLS3000 addressable fire detection panels, associated field detection devices, and communication infrastructure integrated into the station's fire protection architecture.

The installed system includes legacy XLS1000 panels, which have reached an advanced stage in their lifecycle and are considered obsolete by the Original Equipment Manufacturer (OEM). As a result, specialised technical capability is required to support maintenance and fault diagnosis while ensuring continued system reliability.

The Fire Detection System continuously monitors field devices such as smoke detectors, heat detectors and manual call points, providing alarm annunciation, fault monitoring and system status indication to enable rapid response to fire events or system abnormalities.

To ensure the continued reliability and compliance of the system, regular inspection, testing and maintenance (ITM) activities must be performed in accordance with Eskom standards, statutory requirements and OEM recommendations.

Grootvlei Power Station therefore requires the services of a competent and suitably qualified contractor to provide Fire Detection System maintenance support. The scope of this contract includes preventative maintenance, breakdown support, system fault diagnosis and reporting to ensure that the FDS remains safe, reliable and fully operational in support of plant safety and operational continuity.

2. SUPPORTING CLAUSES

2.1 SCOPE

The scope of this contract covers the provision of maintenance services for the FDS installed at Grootvlei Power Station. This includes preventative maintenance, inspection, testing, fault diagnosis, corrective maintenance and technical support for the installed Honeywell XLS1000 and XLS3000 fire detection systems and associated field devices.

The contractor shall ensure that all maintenance activities are performed in accordance with applicable Eskom standards, statutory requirements and OEM recommendations in order to maintain the system in a safe, reliable and fully operational condition.

The scope further includes technical support for system faults, assistance with troubleshooting and restoration of system functionality where failures or abnormalities are detected.

2.1.1 Applicability

This document shall serve as the basis for the provision of maintenance services for the FDS installed at Grootvlei Power Station. It applies to the inspection, testing, preventative maintenance, corrective maintenance and technical support of the Honeywell XLS1000 and XLS3000 fire detection systems and associated field devices forming part of the station's fire detection infrastructure.

The requirements contained in this document shall be used to ensure that the FDS is maintained in accordance with applicable Eskom standards, statutory requirements and OEM recommendations.

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2.2 NORMATIVE/INFORMATIVE REFERENCES

Parties using this standard shall apply the most recent edition of the documents listed in the following paragraphs.

2.2.1 Normative

As a minimum, the Contractor is expected to comply with the following documents:

- [1] ISO 9001 Quality Management System
- [2] Occupational Health and Safety Act 85 of 1993
- [3] National Building Regulations and Building Standards Act 103 of 1977
- [4] 240-54937454 Inspection, Testing and Maintenance of Fire Protection Systems Standard
- [5] 240-54937450 Fire Protection & Life Safety Design Standard
- [6] 240-56737448 Fire Detection and Life Safety Design Standard
- [7] NFPA 72 National Fire Alarm and Signalling Code Handbook
- [8] 32-124 Eskom Fire Risk Management
- [9] 240-72344727 – C&I Control System Architecture Guideline
- [10] ISO 9001 Quality Management Systems

2.2.2 Informative

- [11] 32-1034: Eskom Procurement and Supply Management Procedure
- [12] SANS 369-1 Code of Practice for the Operation of Fire Protection Measures – Part 1: Electrical Actuation of Gaseous Total Flooding Extinguishing Systems
- [13] SANS 10139 Fire Detection and Alarm Systems for Buildings – System Design, Installation and Servicing
- [14] SANS 193 Fire Dampers
- [15] SANS 306-4 Fire Extinguishing Installations and Equipment on Premises, Part 4: Specification for Carbon Dioxide Systems
- [16] SANS 331 Fire Extinguishing Aerosol Systems
- [17] SANS 10400 The Application of the National Building Regulations
- [18] SANS 7240-16 Fire detection and alarm systems Part 16: Sound system control and indicating equipment

2.3 DEFINITIONS

N/A

2.3.1 Disclosure Classification

Controlled Disclosure: Controlled Disclosure to external parties (either enforced by law, or discretionary).

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2.4 ABBREVIATIONS

Abbreviation	Description
24/7	24 hours a day, 7 days a week
ANSI	American National Standards Institute
ATEX	ATmosphere EXplosible
C&I	Control and Instrumentation
CE	Communauté Européenne ("European Community")
CIE	Control and Indicating Equipment
C.V.	Curriculum Vitae
D&S	Design and Specification
EMC	Electromagnetic Compatibility
EN	"European Standard"
FDIA	Fire Detection Installers Association
FDS	Fire Detection and Alarm System
FM	Factory Mutual
IEC	International Electrotechnical Commission
OEM	Original Equipment Manufacturer
PPE	Personal Protective Equipment
RFI	Radio Frequency Interference
SANS	South Africa National Standards
SAQCC	South Africa Qualification and Certification Committee
SCADA	Supervisory Control and Data Acquisition
SME	Subject Matter Expert
TET	Technical Evaluation Team
UL	Underwriters Laboratories
UPS	Uninterruptable Power Supplies

2.5 ROLES AND RESPONSIBILITIES

The System Engineer:

- The System Engineer shall be responsible for issuing the scope of work for the FDS maintenance services and providing technical guidance where required. The System Engineer shall further provide technical clarifications to tenderers during the procurement process and support the evaluation of technical submissions where applicable.

C&I Engineering Line Manager:

- Reviews and assumes functional responsibility of the document

Engineering Middle Manager:

- Reviews and authorises the document

Procurement Manager:

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- The Procurement Manager is responsible for ensuring that PRs that are entered in the procurement system are dealt with expeditiously, efficiently and effectively. He/she is responsible for the performance quality of the procurement function. This includes reduced turnaround times regarding execution of PRs, consolidation of requests to achieve economies of scale, optimisation of savings opportunities where possible, establishing contracts for repetitive LPO requests, ensuring training and accreditation of self and Procurement Practitioners, liaison with End-users as internal customers, quality assurance of the submissions made to DAAs and spot checks on transactions within his/her department.

Procurement Practitioner:

- A Procurement Practitioner manages and/or executes, but not approves, a transaction, procedure or process for procurement/disposals as contained in this Procedure (32-1034) and the Eskom Delegation of Authority Procedure related to the P&SCM process forming part of the Approved Procurement Framework. Once accredited, a Procurement Practitioner approves transactions within the Dual Adjudication Authority space. The Procurement Practitioner is responsible for the procurement process from the receipt of a PR up to the award of a contract/order. Procurement Practitioners also execute modifications to contracts on behalf of End-users.

Contractor:

- The Contractor shall be responsible for providing technical support and maintenance services for the FDS installed at Grootvlei Power Station. This includes identifying system deficiencies, conducting fault investigations, and recommending technically feasible and cost-effective solutions to restore or maintain the functionality and reliability of the FDS.

The Contractor shall further ensure that all maintenance activities, inspections, testing and corrective actions are performed in accordance with applicable Eskom standards, statutory requirements and OEM recommendations.

2.6 PROCESS FOR MONITORING.

The implementation of this contract shall be governed and monitored in accordance with Eskom Procurement and Supply Management procedures.

2.7 RELATED/SUPPORTING DOCUMENTS

N/A

3. SCOPE OF WORK

3.1 DESCRIPTION OF SERVICE

The Contractor shall provide scheduled preventative maintenance and breakdown support services for the FDS installed at Grootvlei Power Station and Vaal Dam Pumping Station for a period of three (3) years.

All maintenance activities shall be carried out in accordance with:

- GVLEG 0251 – Maintenance of Honeywell Fire Detection System Procedure
- SANS 10139 – Fire Detection and Alarm Systems for Buildings
- OEM recommendations and industry best practices

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The Contractor shall respond to critical system faults that impact the functionality of the FDS within 8 hours of notification.

The installed FDS currently consists of a combination of Honeywell XLS1000 and XLS3000 panels, with the XLS1000 platform having reached an advanced stage in its lifecycle and considered obsolete by the OEM. The Employer is currently pursuing a system replacement project through an open tender process. Until such time as the replacement system is implemented, the Contractor shall continue to provide maintenance support for both systems.

3.2 EMPLOYER'S REQUIREMENTS FOR SERVICE

The Contractor shall provide the following services:

- Scheduled preventative maintenance of the FDS and associated field devices
- Maintenance and verification of FDS applications and databases
- Corrective maintenance to restore faulty components and ensure system availability
- System fault investigation and diagnostics
- Backup and recovery of critical system configuration data
- Updating and maintaining system documentation and maintenance records

3.3 FIRE DETECTION SYSTEM DESCRIPTION

The FDS installed at Grootvlei Power Station consists primarily of two Honeywell fire detection platforms, namely the Honeywell XLS1000 system and the Honeywell XLS3000 system. Both systems are supervised through the Honeywell Enterprise Building Integrator (EBI) platform. In addition, the installation includes smaller standalone fire detection systems such as Honeywell XLS120 panel, and Kentec fire alarm panel located in specific plant areas.

The EBI system consists of:

- Two redundant server workstations
- Two engineering workstations
- Communication interfaces with the Honeywell Distributed Control System (DCS) for monitoring purposes.

3.3.1 Honeywell XLS1000 (Obsolete System – Maintenance Required Until Upgrade Completion)

Installed: 2008

Panels: 7

Loops: 39

Devices: Approximately 670 detection devices (smoke detectors, heat detectors, manual call points, etc.)

Locations include:

- Grootvlei Power Station
- Vaal Dam Pumping Station
- Ash Water Return (AWR) Plant

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3.3.2 Honeywell XLS3000

Installed: 2012

Panels:

- 4 Main Panels
- 4 Auxiliary RF-linked panels

Devices: Approximately 530 field devices including smoke detectors, beam detectors, heat detectors and manual call points.

Note: The Contractor shall ensure that system configuration, device mapping and maintenance records remain up to date as part of the maintenance activities.

3.4 MAINTENANCE REQUIREMENTS

3.4.1 Scheduled Preventative Maintenance

Preventative maintenance shall be performed in accordance with GVLEG 0251 and SANS 10139.

3.4.1.1 Fire Detection Panels and Network

The Contractor shall:

- Inspect fire alarm panels for alarms, faults and communication errors
- Verify power supply voltages to panels and associated equipment
- Inspect and test battery condition and charging systems
- Verify correct operation during simulated mains power failure

3.4.1.2 Fire Detectors and Field Devices

The Contractor shall:

- Inspect, clean and functionally test detectors in accordance with SANS 10139
- Test manual call points and confirm system response
- Verify correct installation and condition of field devices
- Identify environmental conditions affecting detector performance

3.4.1.3 System Communication and Network

The Contractor shall:

- Verify communication integrity between panels, servers and field devices
- Inspect I/O modules and communication interfaces
- Identify and rectify faults affecting system communication
- Verify correct mapping of devices within the monitoring system

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3.4.1.4 Power Supply and Battery Maintenance

The Contractor shall:

- Inspect power supply units and chargers
- Conduct battery condition checks and load testing
- Verify integrity of power distribution circuits supplying the fire detection system

3.4.2 Corrective Maintenance and Response Time

The Contractor shall:

- Respond to critical system faults within 8 hours of notification
- Rectify non-critical faults within agreed service level timeframes
- Maintain detailed fault logs and provide reports to the Employer

Corrective maintenance may include:

- Replacement of faulty fire detection components
- Restoration of system communication faults
- Investigation and mitigation of false alarms
- Identification and correction of recurring system faults

3.4.3 System Documentation and Reporting

The Contractor shall maintain maintenance records including:

- Date and time of maintenance activities
- Personnel performing the work
- Test results and observations
- Corrective actions taken
- Device replacement records

All records shall be retained for a minimum of five years and submitted to the Employer.

3.4.4 Compliance and Safety

All maintenance activities shall comply with:

- SANS 10139
- GVLEG 0251
- Eskom safety and plant operational requirements

Testing activities shall be coordinated with the Employer to minimise system impairments and plant risk.

3.4.5 Spare Parts Management

The Employer shall provide critical spare parts for supported Fire Detection System platforms, including XLS3000 and XLS120, through OEM or approved OEM supply channels.

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The Contractor shall be responsible for sourcing, supplying, and installing Honeywell XLS1000 spare parts and related components required to maintain the XLS1000 Fire Detection System for the duration of this contract, or until the obsolete XLS1000 system is upgraded or replaced. Following the upgrade or replacement of the XLS1000 system, spare parts requirements shall be reviewed and aligned to the newly installed system.

The Honeywell XLS1000 Fire Detection System has reached an advanced stage in its lifecycle and has been declared obsolete by the OEM. As XLS1000 spares are no longer readily available through the OEM supply chain, the Contractor shall, where feasible and subject to market availability, source technically suitable XLS1000 spares and/or compatible alternatives as part of this maintenance contract.

The Contractor shall:

- Identify and notify the Employer of required XLS1000 spares
- Source and supply XLS1000 spares and related compatible alternatives where OEM spares are unavailable and where such alternatives are technically suitable
- Provide technical evidence confirming compatibility with the installed XLS1000 system
- Maintain a spare parts usage and reconciliation record
- Record all installed and removed components, including part numbers, serial numbers where available, location, date of replacement, and reason for replacement
- Ensure all supplied components do not compromise system integrity, certification, functionality, or safety
- Ensure supplied components are correctly installed, tested, commissioned, and documented
- Obtain prior approval from the Employer before installing any alternative or non-OEM replacement component

For all XLS1000 spares or compatible alternatives supplied by the Contractor, the Contractor shall provide supporting documentation, where applicable, including technical data sheets, sourcing information, warranty or return provisions, condition of the component, and any configuration or commissioning requirements.

Where XLS1000 spares or compatible alternatives are not available in the market, the Contractor shall formally notify the Employer and provide technical recommendations on possible repair options, risk mitigation measures, or alternative maintenance actions.

No XLS1000 component shall be replaced, modified, or configured without prior approval from the Employer.

3.4.6 Additional Maintenance Considerations

The Contractor shall ensure:

- System configuration and mapping documentation is updated following maintenance
- Regular backup of EBI system data in accordance with the agreed backup strategy
- Firmware or software upgrades are tested prior to implementation
- Adequate technical capability exists to support maintenance and fault finding on the EBI system.

The Contractor shall ensure the operational integrity of the Honeywell EBI supervisory system associated with the FDS. This includes monitoring system health, verifying communication between EBI servers and fire alarm panels, and maintaining system configuration backups.

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The Contractor shall support troubleshooting and diagnostics of faults affecting the EBI system, including database integrity, communication failures, or system configuration issues. Any software modifications or system upgrades shall only be implemented with prior approval from the Employer and in accordance with OEM recommendations.

3.4.7 Technical Support and Escalation Requirements

The Contractor shall demonstrate the capability to diagnose, troubleshoot and resolve faults associated with the FDS installed at Grootvlei Power Station and Vaal Dam Pumping Station.

The Contractor shall have access to the necessary technical expertise, software tools and support arrangements required to perform fault investigation and system diagnostics on the Honeywell XLS1000 and XLS3000 platforms, including the EBI supervisory system.

Where system faults exceed the Contractor's direct technical capability, the Contractor shall implement an escalation process to obtain specialist technical support. This may include engagement with the OEM, authorised distributors, or other qualified technical support providers.

The escalation process shall support higher-level technical interventions including, but not limited to:

- Advanced system diagnostics and fault investigation
- Configuration or programming adjustments
- Firmware and software troubleshooting
- Communication or network related issues affecting the FDS
- Faults affecting system databases or supervisory systems (EBI)

The Contractor shall ensure that escalation arrangements are in place to support the resolution of complex system faults in order to maintain the availability and reliability of the FDS.

3.4.8 System Impairment Management

The Contractor shall ensure that any maintenance activities which may impair the FDS are coordinated with the Employer. Where system impairments are required for testing or maintenance purposes, appropriate precautions and restoration procedures shall be implemented to ensure that the system is returned to normal operational status upon completion of the work.

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4. AUTHORISATION

This document has been seen and accepted by:

Designation
Chief Engineering Technologist
Chief Engineer Prof Engineer
C&I Maintenance Line Manager
C&I Engineering Line Manager (Acting)
Middle Manager Engineering
Document Control officer

5. REVISIONS

Date	Rev.	Remarks
February 2026	0	Original document
March 2026	1	Original document
May 2026	2	Added Spares for XLS1000 requirement

6. DEVELOPMENT TEAM

The following people were involved in the development of this document:

- Dumisani Chauke

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7. ACKNOWLEDGEMENTS

- C&I Engineering Team

8. APPENDIX

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